DOCUMENT RESUME

ED 257 270 EC 172 597

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TITLE Conversational Skills Training: Teaching Adolescents with Mental Handicaps to Be Verbally Assertive.
PUB DATE Apr 85
NOTE 24p.; Paper presented at the Annual Convention of the Council for Exceptional Children (63rd, Anaheim, CA, April 15-19, 1985).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; *Assertiveness; *Communication Skills; Cues; Generalization; Interpersonal Competence; *Moderate Mental Retardation; *Prompting; Secondary Education; Social Development
IDENTIFIERS *Conversation

ABSTRACT

The study examined an approach to train three adolescents with moderate mental handicaps to use the conversational skills of initiating a topic and continuing the conversation by cueing an adult listener to speak. The instructional techniques of modeling, prompting, delay, and social reinforcement were used in intervention. A single subject reversal design evaluated the effects of treatment on the frequency of assertive verbal behavior. Training involved four steps progressing from minimal to maximal levels of intervention: (1) systematic delay, (2) explanation of the purpose of conversation and the two roles involved, (3) verbal prompting, and (4) verbal modeling of an appropriate response. Results revealed increases in functional initiating and cueing behavior following 9 weeks of training. Only minimal effects of treatment generalized to conversations between Ss and two nonhandicapped adults from the community. (CL)

# Conversational Skills Training:

# Teaching Adolescents With Mental Handicaps

# To Be Verbally Assertive

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Paper presented at the Annual Convention

of the

Council for Exceptional Children

(63rd, Anaheim, CA, April 15-19, 1985)

## Abstract

The purpose of this study was to train three adolescents with mental handicaps the conversational skills of initiating a topic, and continuing the conversation by cueing an adult listener to speak. A reversal design was used to evaluate the effects of treatment (systematic delay, instruction, prompting, modeling, and reinforcement) on the percentage of functional initiating and cueing behavior during 5-minute conversations between each subject and a nonhandicapped adult. Results indicated increases in both targeted behaviors following 9 weeks of training. Only minimal effects of treatment generalized to conversations between subjects and two nonhandicapped adults from the community.

Teaching Adolescents With Mental Handicaps To Be Verbally Assertive

A major distinguishing characteristic of persons with moderate to severe retardation is their lack of social language skills (McCarthy, 1964; Perry, 1974; & Robinson & Robinson, 1965). Although these individuals usually display sufficient verbal skills to fulfill basic needs, their social skills usually are extremely limited.

Many studies that have addressed skill deficits in verbal communication of individuals who have mental handicaps, have investigated methods of improving basic language skills (Guess, Sailor, & Baer, 1974; Ramey, Sparling, & Wasik, 1979). These studies have dealt with strategies for teaching referential skills that assist individuals in acquiring some control over their social and physical environment. A similar goal of verbal control is apparent in studies designed to improve the conversational competence of those individuals with mental handicaps who have the necessary verbal skills to engage in social interactions (Bradlyn, 1983; Kelly, Furnam, Phillips, Hathorn & Wilson, 1979; Rychtarik & Bornstein, 1979).

Since vicarious learning of age-appropriate verbal skills is not readily demonstrated by those with mental handicaps (Matson, DiLorenzo, & Andrasik, 1983), specific teaching of these skills is needed. However, while most parents and teachers concentrate on improving the child's ability to follow directions and express basic needs, little attention has been devoted to teaching conversational speech (Wheeler & Wislocki, 1977). As a result, a student with a mental handicap may often leave the school system poorly prepared to interact in the diverse social situations of community living.

Intervention strategies to improve conversational competence have focused on improving initiated or spontaneous speech (Halle, Baer, & Spradlin, 1981), question asking (Kelly et al, 1979; Minkin et al. 1976), and responding appropriately to questions (Broden, Copeland, Beasly, & Hall, 1977; Kelly et al. 1979). In the present study the subject's ability to cue the listener (adult) to speak was considered crucial to the initiation and maintenance of a conversation. Two main forms of this behavior were identified: (1) initiating a new topic of discourse; and (2) cueing the adult to respond by spontaneously making comments or asking questions on topics already under discussion.

Initiation of a new topic of discourse has not often been targeted for intervention with students with mental handicaps. However, initiated or spontaneous speech has been investigated in terms of the language behavior of disadvantaged and developmentally delayed preschoolers (Halle et al., 1981; Keenan, 1983). For those lacking competent language skills, the act of initiating a new topic of discourse is not apparent in their conversational skill repertoire. Rather, members of this group exhibit exceptional dependency on verbal cues from another, and passively follow the topic of conversation chosen for them (Bedrosian & Prutting, 1978). Training for verbal initiation could serve to improve their ability to control the direction of the conversation, allowing for more equal conversational partners.

Cueing the listener to speak is another means of controlling the direction of the conversation and assuming a more assertive role in a social interaction. It has also been identified as a skill deficit for those with mental handicaps, although the term

"cueing" is rarely used. Instead, cueing is usually described by behaviors such as asking questions, making spontaneous statements about one's environment and stating commands. For the purpose of this study, cueing was defined as any verbal behavior eliciting a response from the conversational partner that was relevant and meaningful to the topic already under discussion.

The primary aim of this study was to investigate the effects of a treatment package on the verbal assertiveness (in terms of cueing and initiating) of an adolescent with a mental handicap during a social conversation with a normal adult. A secondary objective was to measure the generalization effects of this training package in a social conversational situation.

The instructional techniques of modeling, prompting, delay, and social reinforcement were chosen for use in the intervention strategy. Aspects or modification of these techniques are frequently found in social conversation between those of extremely varying verbal skill levels, such as parent-child interactions (Chapman, 1981). Therefore, it was felt that the use of these techniques could be incorporated easily into conversational situations, and that treatment effects would have a greater chance of being maintained in social situations.

## METHOD

### Subjects

Three adolescents with a moderate mental handicap, ranging in age from 12-19 years participated in the study. The subjects selected had no hearing or physical handicaps that affected the intelligibility of their oral language. The teachers of these

subjects had identified them as having deficiencies in conversational skills, and who could benefit from social skill training.

Subject 1. Rose was a 17 year-old young woman (Standford-Binet IQ score of 33). Adaptive behavior skills as measured by the Vineland Scale of Social Maturity were rated at a 3.5 year level. Rose communicated orally using both complete and incomplete sentences. She frequently began her comments with unnecessary, repetitive phrases which decreased the fluency of her speech.

Subject 2. Bill was 18 years old (Standford-Binet IQ score of 43). The Vineland Scale of Social Maturity suggested a social age of 8.9 years. Bill communicated orally using an extremely rigid and correct sentence structure (e.g., "No, I do not know the answer to that question".). He did not regularly interact with his peers, although he did respond well to adults. He had some difficulty producing certain sounds (s, sh, ch, t, and g) as determined by the school's speech pathologist.

Subject 3. Shelly was 12 years old (Standford-Binet IQ score of 44). Her score on the Vineland Scale of Social Maturity was 8.7 years, although this score may be elevated several years as a result of unrealistic parental responses on the test. Shelly communicated orally, talking quickly, but intelligibly. She frequently perseverated in her utterances, referred to herself in the third person and engaged in inappropriate giggling, laughing, and abnormal vocalizations.

## Setting

The study took place at a center for students with moderate to severe mental handicaps located within a public school district. Subjects were trained by the investigator on a one-to-one basis in a small (2.5m by 3.7m) room adjacent to one of their regular classrooms. The room was decorated and arranged to resemble a small lounge area. A T.V. (used as a VCR monitor) was in the room in full view of the subjects at all times. A smaller section, partitioned off from the main room, housed a camera used to videotape subjects during sessions.

Subjects were informed that they were being taped during all conversational sessions, although the camera lens was the only visible part of the equipment. The subject and trainer sat facing each other at a small table in the center of the room. On the table were three magazines that contained colorful pictures of animals, crafts, decorating, cooking, and film stars.

## Procedure

A single subject reversal design (A-B-A-B) was used to evaluate the effects of treatment (systematic delay, instruction, prompting, modeling, and reinforcement) on the frequency of assertive verbal behavior (functional initiating and cueing). Initiation by the subject was considered any type of functional verbal cue that introduced a new topic of conversation. It was always preceeded by a 3-10 second pause and followed by a response from the adult listener. Cueing by the subject was considered any functional verbal behavior that acted as a stimulus for the listener's response, but was not in direct response to a cue from the adult partner, nor introduced a new

topic of conversation. For example, in a discussion of dogs the last statement made by the adult was that he liked dogs. The subject was credited with cueing the adult if he followed a pause in the conversation with something that added to the topic, such as "I saw my dog have puppies" and the adult responded with something that indicated his understanding of the cue.

Baseline sessions and probes were videotaped and scored by two trained raters when the sessions were completed. Training occurred over a 9 week period (20 minutes a day, four times a week), and was performed by the investigator.

All three subjects were exposed to the first three conditions of the reversal design (initial baseline, training, and second baseline). The duration of each condition of this design was dependent on the analysis of the data.

Probes were performed by a graduate assistant in Special Education who had some experience working with persons with mental handicaps, but was unfamiliar with the subjects for this study.

Baseline. Baseline performances consisted of 5-minute videotaped sessions of a subject talking to the probe adult. This adult was required to follow instructions for facilitating language behavior of the subject by accepting pauses in the conversation for up to 10 seconds, and keeping his comments to a minimum. Baseline sessions continued until a stable or descending trend was noted.

Training. Training for initiation of a topic and cueing during a conversation involved four steps progressing from minimal to maximal levels of intervention. The first training

procedure (step a: systematic delay) required that the adult make eye contact with the subject but not initiate any interaction for up to 10 seconds. If the subject made no attempt to initiate the conversation, the trainer engaged in step b (explanation of the purpose of conversation and the two roles involved). Step a was repeated and if no response from the subject, the trainer progressed to step c (verbal prompting by suggesting that the subject find something to talk about by looking through the magazines or thinking of something that happened at home or school). Step a was repeated and if the desired response was not produced, the trainer went to step d (verbal modeling of an appropriate response).

The trainer began with the least amount of intervention (step a) and engaged in each additional increment of assistance if the subject failed to reach criterion (three consecutive nonprompted initiations of a topic and three cues per topic). If a subject reached criterion at any level of training the additional training measures were not employed.

Throughout the training process, verbal praise was utilized as a means of strengthening desired responses. In addition, the subject received verbal feedback after each response as to the acceptability of that response.

Analysis of the data collected during the second baseline condition determined when the second training phase was to begin. Training procedures during this phase of the study followed the guidelines as described in the preceeding section on initial training procedure.

Generalization to New Persons

To determine the generalization of the training procedures to novel situations, each subject was paired with two novice adults from the community for five, 5-minute conversations prior to training and four conversations immediately following training. These sessions occurred in the same setting as the training and were videotaped for analysis by trained raters.

Two adults who had no previous interactions with persons who have mental handicaps served as conversants for generalization measures in pretraining and posttraining ratings of conversational competence. One adult male (age 37) was trained in specific verbal skills to facilitate conversation with each subject (paralleling the role of the probe adult). The other adult (female, age 30) was trained to use specfic behavior that would not facilitate the conversational competence of the subject, thus representing the average adult having no previous contact with a person who has a mental handicap. This nonfacilitating adult was instructed to dominate the conversation by initiating all topics of discussion, avoiding any pauses, and asking numerous questions to maintain the conversation.

Data Collection and Analysis

The same adult who performed the baseline sessions with each subject also performed all training and reversal probes following the procedure as stated for baseline sessions. These probes, which provided data for the study followed every fourth training session for the first 4 weeks of training and then were increased to two times a week in order to more precisely reflect the

effects of training. The probes lasted 5 minutes each and were videotaped for rating at a later date.

Interrater Reliability

Two raters were trained to recognize targeted language components of initiating and cueing using videotapes of adolescents who had mental handicaps, but were not used in the study. Training continued until an interobserver agreement ratio of at least 80% per minute interval of taped conversations had been attained. Following this training one of these raters rated all 132 videotaped sessions from the study, and 48 (36%) were rated by the second rater to determine reliability. These 48 sessions were equally divided among the three subjects (16 each) with the stipulation that each phase of the study was represented for each subject. Interrater reliability was obtained across behaviors per subject by dividing the number of agreements by the total number of disagreements and multiplying by 100 (Kazdin, 1982).

The adults who participated in this study (both adult conversants in the generalization measure and the probe adult) were also viewed by these two raters to determine if they had maintained their specific role as a facilitator or nonfacilitator at or above a 90% criterion level. All 132 sessions were used as a reliability measure. If both raters assigned the adult a score below 90%, that particular videotaped segment was not analyzed.

## RESULTS

Reliability

Interrater reliability was 94% for the targeted behaviors (a range from 77% to 95%). The interrater reliability for ratings

of adult conversants holding their specified roles was 99% (a range from 94% to 100%).

Initiating Topics of Conversation

All three subjects demonstrated slight increases in initiations following training. Subject 1 increased her percentage of initiations from 73% during Baseline I to 89% during Training I, Subject 2 an increase from 86% to 100%, and Subject 3 from 50% to 68%.

Subject 1 evidenced a slight decrease in performance during the second baseline condition (from 89% to 80%), that was reversed when training was reinstated. Subject 2 maintained the behavior acquired during the Training I period (100%) throughout the remainder of the study. Subject 3 increased initiating behavior from 56% for the first six probes taken during Training I to 90% for the following seven probes. During Baseline II, this 90% level decreased to 73%, and increased to 89% during the second training phase.

Cueing the Listener to Speak

All three subjects demonstrated an increase in their ability to cue the listener to speak within a given conversational topic (see Figure 1). Subject 2 showed immediate and substantial effects of training (from 24% to 75%) during the first three probes of the first training phase. Subjects 1 and 3 demonstrated more modest increases in this behavior during the first training period, from a mean of 36% to a mean of 45% for Subject 1, and from a mean of 26% to a mean of 49% for Subject 3.

The percentage of cueing decreased during the second baseline phase for all three subjects. Subject 1 decreased this behavior from 45% to 36%, and Subject 3 showed a decrease from 49% to 36%. These findings prompted the reinstatement of training. Subject 2 displayed a gradual downward trend from 53% to 36%. Time constraints precluded additional training and probes.

During the retraining phase, Subject 1 demonstrated inconsistent responses to treatment, and time constraints prevented the inclusion of additional probes. Subject 3 showed an immediate increase in cueing behavior with the reinstatement of training from 19% in the final session of Baseline II to 58% in the second session of Training II.

INSERT FIGURE 1 HERE

Generalization to Other Adults

Only limited instances of generalization of treatment effects were noted, and these varied from subject to subject. Subject 2 displayed a moderate gain in cueing behavior in posttraining conversations with the nonfacilitating adult, but not the facilitating adult. Subject 3 increased initiating behavior with the facilitating adult, but not with the nonfacilitating adult.

The role of the adult conversant appeared to have the greatest effect on initiating conversation. Performance for this behavior was higher with the facilitating adult than the nonfacilitator in both pre- and posttraining sessions for all subjects (see Figure 2). For instance, Subject 1 initiated the conversation 75% of the time prior to training with the facilitating adult and did not initiate the conversation at all

with the nonfacilitating adult. For Subject 2, initiating conversation occurred 78% of the time with the facilitating adult prior to training and 80% following training. These percentages were considerably less with the nonfacilitating adult, 29% and 25%, respectively. Subject 3 initiated the conversation 80% with the facilitating adult following training, and only 33% with the nonfacilitating adult.

In all other conditions, treatment effects on the targeted behaviors did not generalize to the two unfamiliar adults assuming facilitating and nonfacilitating roles.

INSERT FIGURE 2 HERE

## DISCUSSION

The present data indicated that the treatment package had a positive effect on increasing initiating behavior for all subjects. As in the study by Halle et al. (1981), planned delay appeared to be functional for initiating a conversation. It appears that with individuals who have mental handicaps, the delay may have to be quite pronounced (10 seconds or more) to be effective, as compared to the 3-second pause considered uncomfortable in a conversation with adults of normal intelligence (McLaughlin & Cody, 1982). In this study, the subjects initiated the conversation when a pronounced pause of 10 seconds occurred. Therefore, initiating a conversation may be encouraged when adults assume a more passive, less dominant role and tolerate the discomfort of a prolonged pause when conversing with a person having a mental handicap.

In regard to cueing, each subject demonstrated an increase in this behavior. This finding is in contrast to the results obtained by Kelly et al. (1979), Bradlyn et al. (1983), and Kelly, Wildman & Berler, (1980). These researchers did not demonstrate an increase in the targeted behavior of asking questions for all subjects, though their findings did verify the effectiveness of training on other conversational skills. In the present investigation, information on the relationship between treatment and cueing was provided by the reversal procedures: cueing decreased when training was suspended during the second baseline condition.

Termination of the school year prohibited a conclusive determination of the effects of reinstating treatment on cueing behavior, especially for Subjects 1 and 2. However, the effect of treatment on cueing seems apparent from the increase in Subject 3's performance during the final three sessions of the Training II phase.

An underlying premise of similar studies is that an increase in cueing behavior would improve the overall quality of the social exchange. However, in this study, functional cues were not always those cues that were of the highest interest to the probe adult. For instance, if the adult disclosed some information related to an activity, a subsequent cue from the subject should have been to seek additional information about that activity, (e.g., Adult: "I really had a nice time camping last week!" Subject: "What did you do?"). Instead of this type of potentially high interest cue, the subject would often respond with a more self-oriented cue (e.g., Adult: "I really had a nice

time camping last week!" Subject: "Do you know I'm going camping?"). This type of response occurred frequently, suggesting the need for further research to improve the quality of cueing behaviors as well as quantity.

Treatment effects were expected to be more readily apparent in conversations with the facilitating adult than with the nonfacilitating adult, due to the role similarities between the trainer, probe adult, and facilitating, but unfamiliar adult. The skill of initiating a conversation was the only targeted behavior to support this assumption. All three subjects showed moderate increases in this behavior when engaged in conversations with the facilitating adult, but not the nonfacilitating adult.

The failure of generalization parallels findings from similar studies (Fry, 1969; Kazdin, 1974; McFall & Lillesand, 1971; Rychtarik et al., 1979). In this study, the lack of generalization may be explained in part by the close of the academic year. Both posttraining situations were under severe time constraints and at a time of year when the subjects were potentialy more concerned with the separation from their teachers and classmates than conversing with two relatively unfamiliar adults. These social factors should be considered when interpreting the data on generalization.

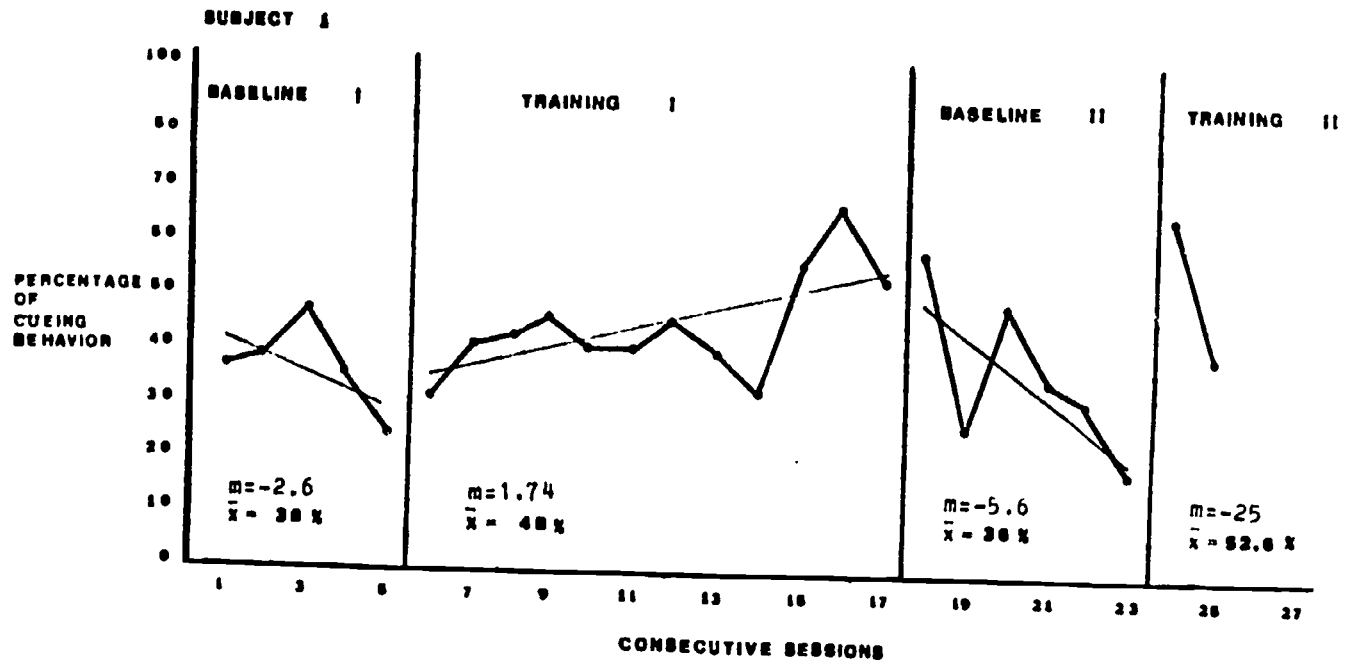
Although the generalization of training effects was not demonstrated in this study, the importance of generalization should not be understated, and means need to be found to enhance its likelihood. The adolescent with a moderate mental handicap displaying adequate verbal behavior to satisfy basic needs and

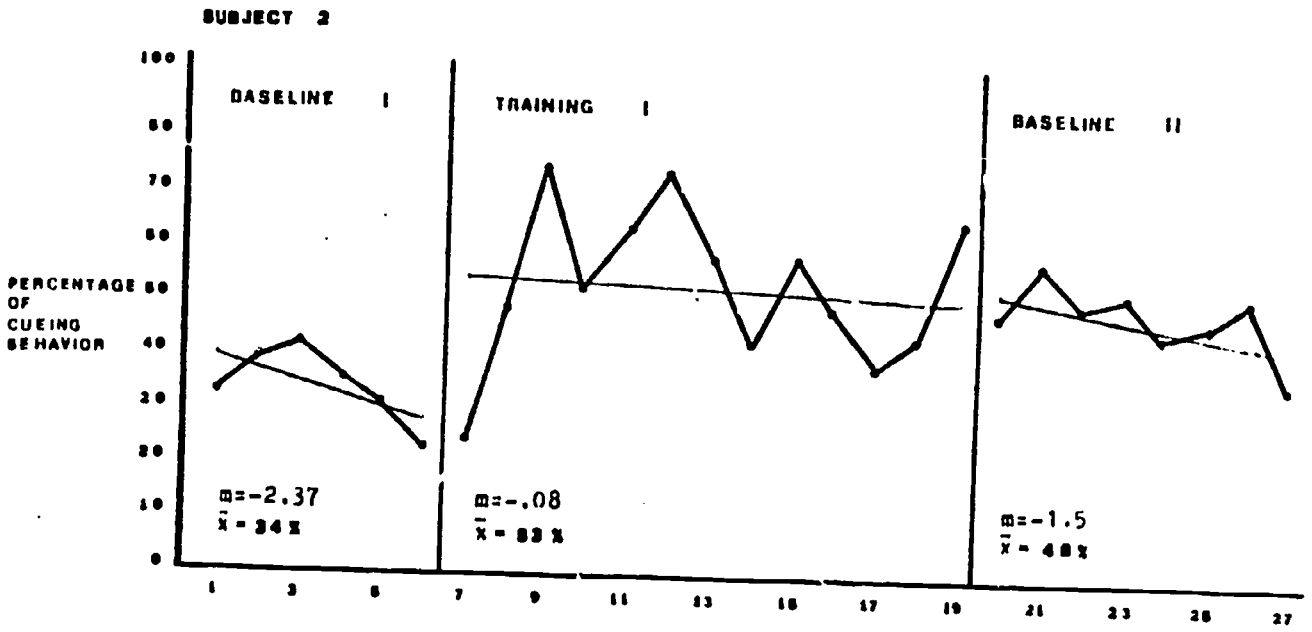
wants, may still fail to demonstrate the necessary skills required for a social conversation. Systematic training in conversational skills is necessary to ensure that the individual acquires the skills needed to improve his or her conversational competence. This study addressed that need and suggested methods of teaching those verbal skills that would enhance a more positive social interaction between persons with mental handicaps and those without.

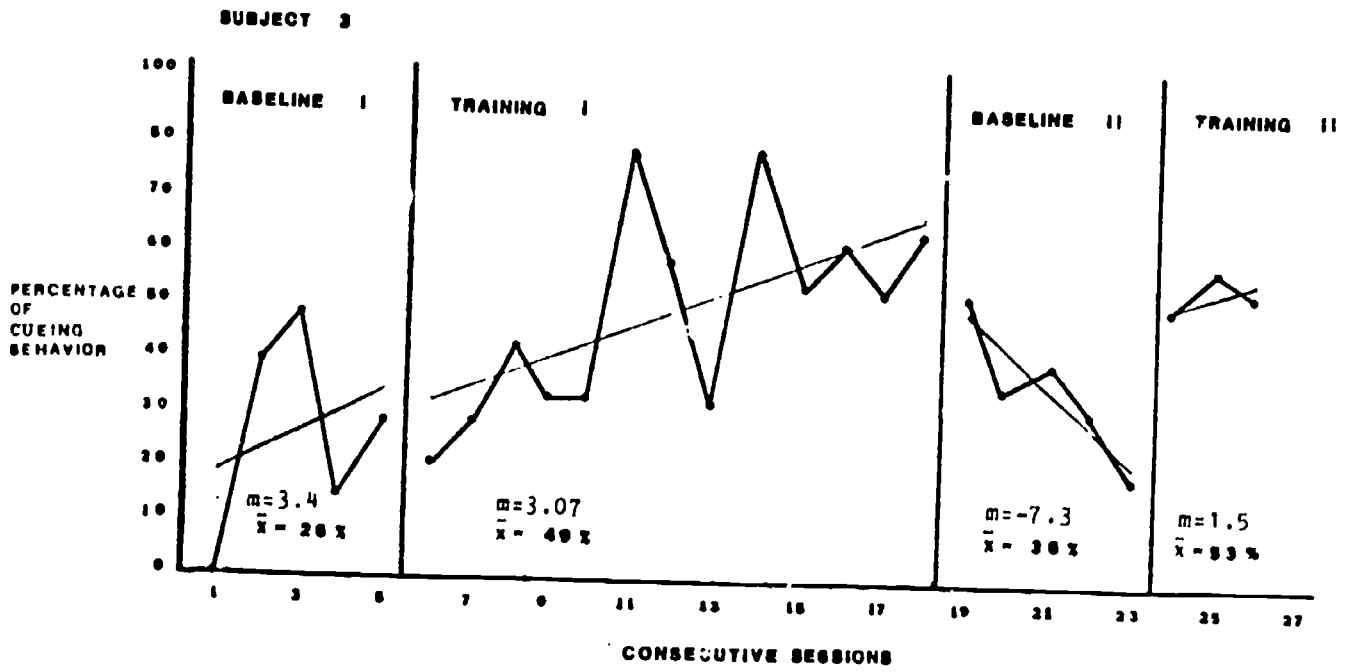
## Figure Captions

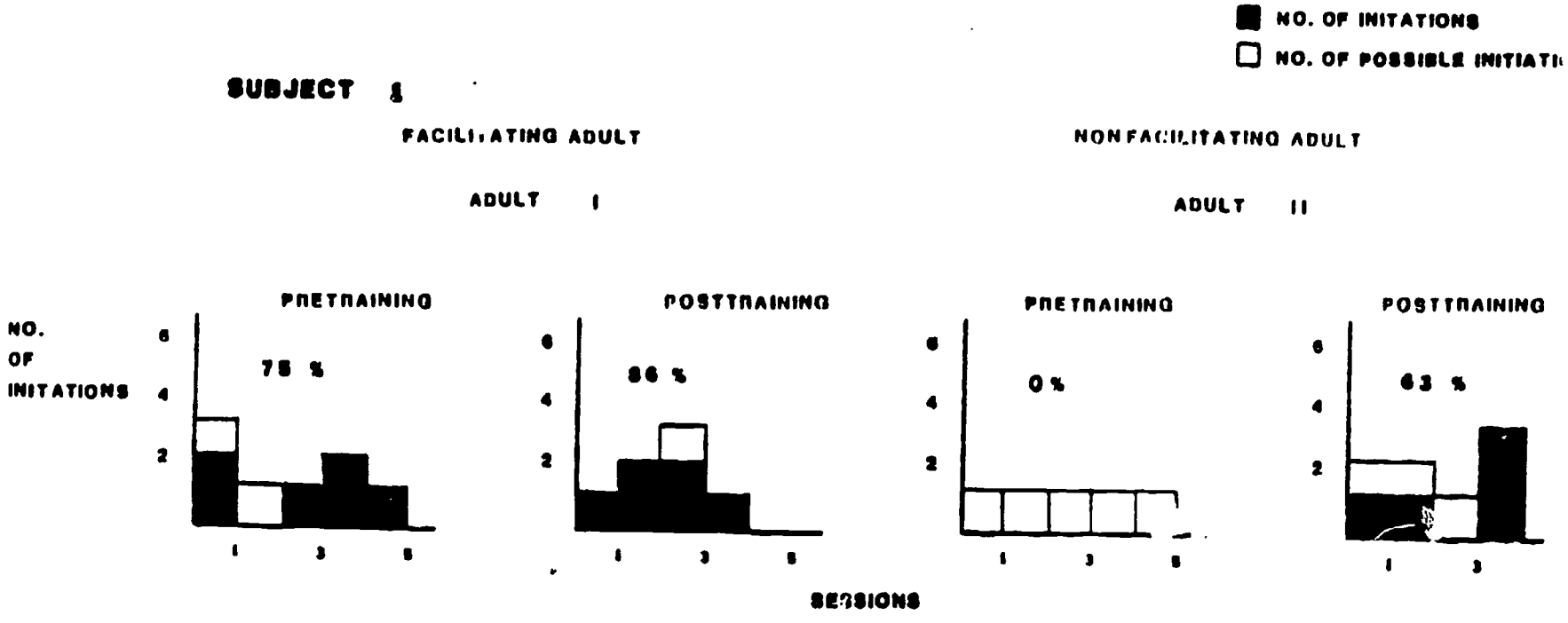
Figure 1. The effects of intervention on the percentage of cueing behavior of three adolescents with mental handicaps during 5-minute conversational probes with a nonhandicapped adult.

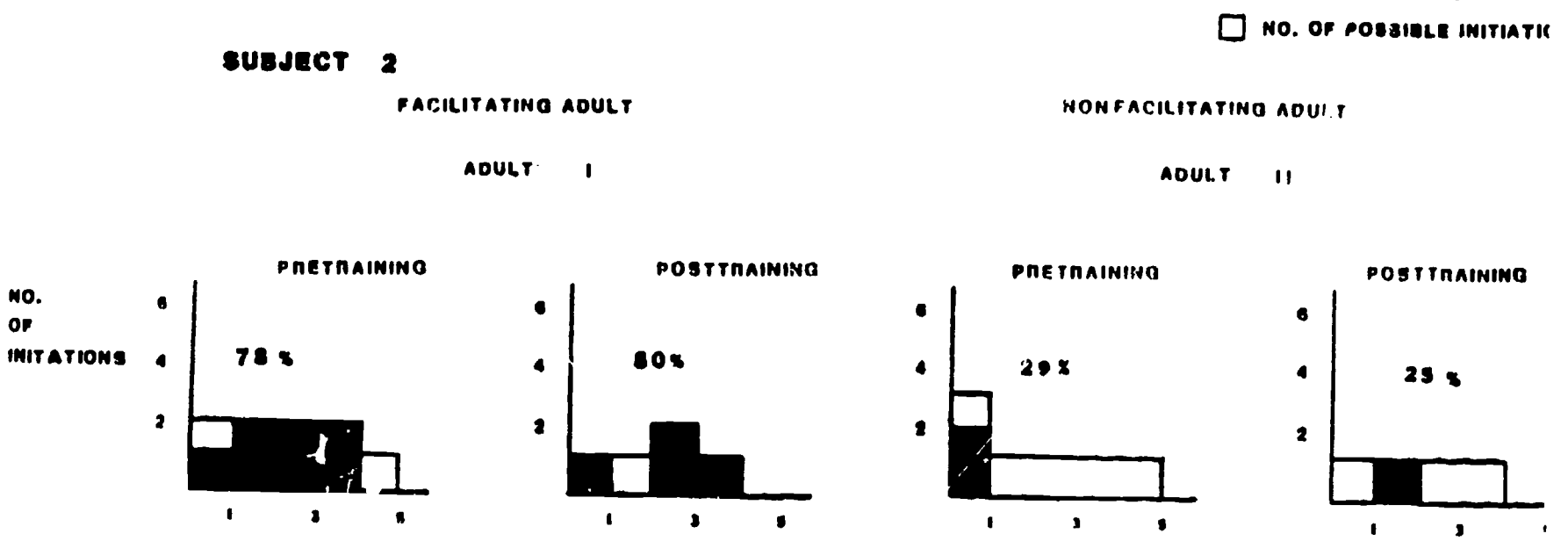
Figure 2. The generalization effects of intervention on the amount of initiating behavior of three adolescents with mental handicaps during 5-minute conversations with unfamiliar adults in facilitating and nonfacilitating roles.

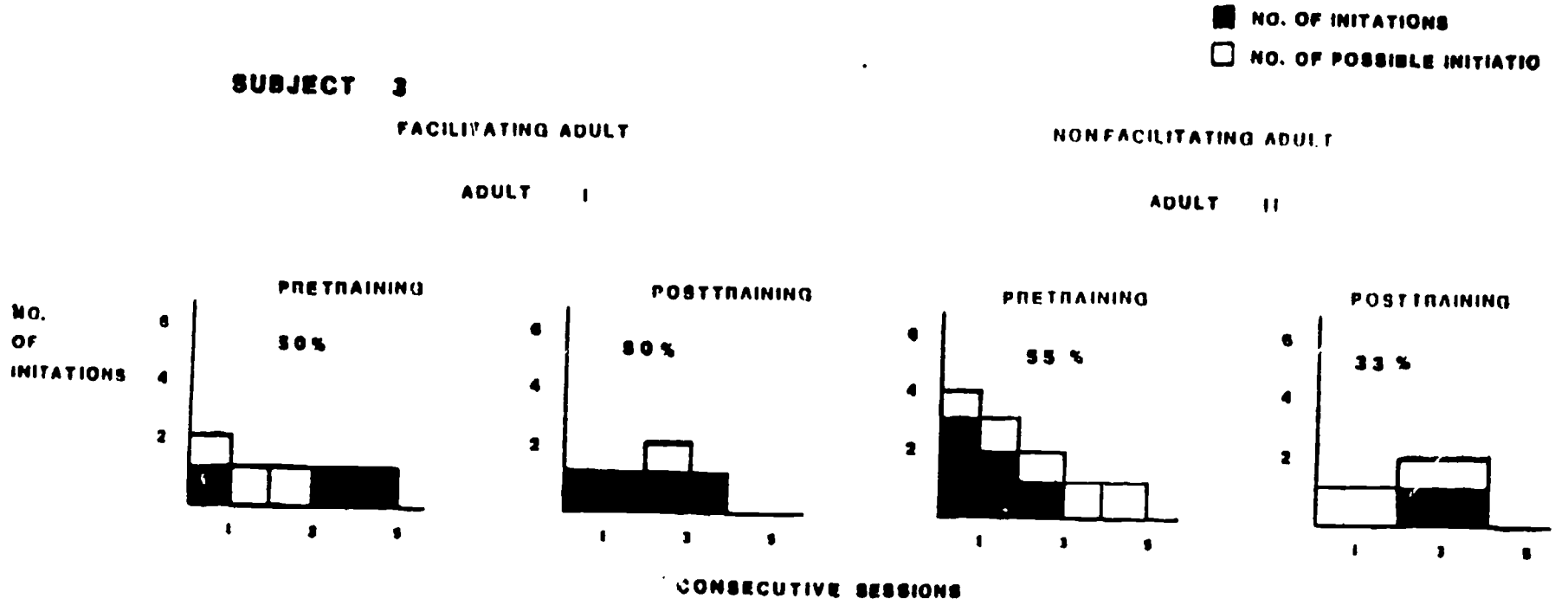




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